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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,430	10/17/2002	Shao-Tsu Kung	CEIP0047USA1	6758

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EXAMINER

CIRIC, LJILJANA V

ART UNIT PAPER NUMBER

3753

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary	Application No.	Applicant(s)	
	10/065,430	KUNG ET AL.	
	Examiner	Art Unit	
	Ljiljana (Lil) V. Ciric <i>LVC</i>	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March, 13 July, and 1 November, 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office action is in response to the reply filed on March 15, 2004, July 13, 2004, and November 1, 2004.
2. Claims 1 through 14 have been amended and claims 15 through 17 are new.

Response to Arguments

3. Applicant's arguments filed on March 15, 2004 have been fully considered but they are not persuasive.

As a preface to the following traversal of applicant's arguments, the examiner hereby notes that the claims in a pending application should be given their *broadest* reasonable interpretation. See In re Pearson, 181 USPQ 641 (CCPA 1974).

Thus, applicant's argument that the prior art of record, including Pollard, II, fails to disclose a plurality of types of phase change materials for heat storage are not persuasive, since the reference most clearly does specify that the e two-phase PCM material as possibly including metallic fillers which change phase at a different temperature than the PCM material. See column 2, lines 37-41].

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that the Endo reference is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably

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pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the problem to be solved is the same—environmentally insulating a heat storage device which is part of a thermal module including PCM materials. Whether this heat storage device is to be used in a laptop or a vehicle is immaterial.

Applicant's argument that the teaching of the casing being electrically insulated is not taught by Endo is not persuasive either, since the casing materials disclosed by Endo are all inherently electrically insulative.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

~~Allowable Subject Matter~~ LVC 1-10-05

~~4. Claims 9 through 14 and 16 are objected to as being dependent upon a rejected base claim, but~~ LVC 1-10-05
~~would be allowable if rewritten in independent form including all of the limitations of the base claim and~~ LVC 1-10-05
~~any intervening claims.~~ LVC 1-10-05

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claims 1 through 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation “a plurality of *types* of phase change materials for heat storage that change from one physical state to another physical state at *differing* temperatures” is not clear as written and contains both idiomatic informalities “differing temperatures” and terms which have not been clearly defined “a plurality of *types* of phase change materials”, thus rendering the metes and bounds of protection sought indefinite.

The terms “approximately” and “reasonable” appearing in base claims 14 and 15 are a relative terms which renders the claims indefinite. The terms “approximately” and “reasonable” are not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Thus, as used to qualify the physical qualities of the heat storage device, these terms render the same indeterminate and the claims indefinite.

The above is an indicative, but not necessarily an exhaustive, list of 35 U.S.C. 112, second paragraph, problems. Applicant is therefore advised to carefully review all of the claims for additional problems. Correction is required of all of the 35 U.S.C. 112, second paragraph problems, whether or not these were particularly pointed out above.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. As best can be understood in view of the indefiniteness of the claims, claims 1 through 5 and 8 through 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Pollard, II, previously of record. Pollard, II discloses the two-phase PCM material as possibly including metallic fillers which change phase at a different temperature than the PCM material. See column 2, lines 37-41].

The reference thus reads on the claims.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. As best can be understood in view of the indefiniteness of the claims, claims 6, 7, and 14 through 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pollard, II in view of Endo [both previously of record].

Pollard, II, discloses all of the claimed features, including a casing 34, with the exception of the casing being electrically and thermally insulating.

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The patent of Endo teaches that it is known to have a thermally insulating casing 50 (i.e., glass, wool, ceramic fiber, and the like—all of which are inherently also electrically insulating) for the purpose of preventing fluctuations in environmental temperatures from affecting the thermal exchange between the PCM and a heat pipe.

Thus, it would have been obvious to one skilled in the art at the time of invention to modify the thermal module of Pollard, II by making the casing 34 out of a thermally and electrically insulating material as taught by Endo in order to minimize negative impacts on the thermal performance of the heat storage device enclosed by the thermally and electrically insulating casing due to any unexpected or undesirable environmental conditions or changes thereto.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric, whose telephone number is (571) 272-4909.

While she works a flexible schedule that varies from day to day and from week to week, Examiner Ciric may generally be reached at the Office during the work week between the hours of 10 a.m. and 6 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene, can be reached at (571) 272-4930.

lvc

January 10, 2005



LJILJANA V. CIRIC
PRIMARY EXAMINER
ART UNIT 3753